

Serial No.: 10/647,889
Submission Dated January 31, 2006
Reply to Office Action of November 29, 2005.

REMARKS

In the Office Action of November 29, 2005, claims 1-37 were again rejected, notwithstanding the Applicants' earlier amendment of independent claim 1. Claims 1-37 remain pending in the application. Claims 38-40 were earlier withdrawn from consideration. In this response, the Applicants again respectfully urge the Examiner to reconsider his position and his continued rejection of claims 1-37. The Applicants urge that claims 1-37 recite patentable subject matter as written and require no further amendment.

35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) Rejections

The Examiner again rejected claims 1-37 under U.S.C. 102(b) as being anticipated by or, in the alternative, under U.S.C. 103(a) as obvious over Schmidhauser et al., US 5,830,974 (hereinafter "the '974 reference"). The rejection of claims 1-37 is once again respectfully traversed.

Claim 1 as amended recites a method for preparing an aromatic polyether polymer by reacting substantially equimolar amounts of at least one alkali metal salt of a dihydroxy-substituted aromatic hydrocarbon with a bis((N-(chlorophthalimido))aromatic compound in the presence of a stable phase transfer catalyst, wherein the alkali metal salt of a dihydroxy-substituted aromatic hydrocarbon is prepared by

"(i) contacting in water at least one hydroxy-substituted aromatic hydrocarbon and at least one alkali metal base to provide an aqueous solution of the alkali metal salt of a dihydroxy-substituted aromatic hydrocarbon; and

(ii) spraying the aqueous solution comprising the alkali metal salt of a dihydroxy-substituted aromatic hydrocarbon into an organic solvent, said solvent being at a temperature greater than the boiling point of said solvent at the prevailing pressure."

In his remarks in the Office Action mailed November 29, 2005 the Examiner appears to suggest that the Applicants' "purpose" in adding claim limitations concerning the steps taken to prepare the alkali metal salt of a dihydroxy-substituted aromatic

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hydrocarbon was solely to achieve a water concentration of less than about 50 ppm during the subsequent chloro displacement reaction between said salt and at least one predried bis((N-(chlorophthalimido))aromatic compound, in the presence of a predried phase transfer catalyst which is substantially stable at the temperatures employed. The Applicants respectfully point out that while an understanding of the purpose of a particular limitation in a claim, such as limitations (i) or (ii) in amended claim 1, may provide insight into the materiality of such limitation, the purpose is typically limited to the subjective theoretical underpinnings of the limitation and as such is not the best means of objectively evaluating the scope of the claimed invention.

The Applicants have demonstrated that the limitations (i) and (ii) of amended claim 1 are material. The Applicants noted in an earlier response that preparing the alkali metal salt of a dihydroxy-substituted aromatic hydrocarbon in the manner specified resulted in other enhancements in addition to achieving the required level of "dryness" for optimal reaction rates. For example, the Applicants demonstrate in Examples 17, 18 and Control "H" (the data are provided in Figure 2) the surprising and useful effect of reduced particle size on reaction rate. Namely, smaller is better. Paragraph [0048] of the application explains how control of particle size may be achieved without grinding during preparation or dehydration of the alkali metal salt. Paragraph [0048] further states that "[s]praying of the aqueous solution (sometimes referred to as atomization of the aqueous solution) into an organic solvent prevents agglomeration of salt during removal of water." In Examples 17, 18 and Control "H" the bisphenol A disodium salt employed was provided as a slurry (See paragraph 55 of the application) and in the case of Examples 17 and 18 was then "ground by immersing a laboratory-scale tissue homogenizer in the slurry thereof for 5 minutes (Example 17) or 10 minutes (Example 18), further reducing the maximum particle diameter in each example to about 200 microns" (See paragraph 73 of the application). Taken together, Examples 17, 18 and Control "H" demonstrate that smaller particle sizes afford higher reaction rates, but also that when the bisphenol A disodium salt is prepared in accordance with the limitations of the claimed invention, very respectable reaction rates may be attained without recourse to grinding (See Control "H"). It should be pointed out that Control "H" represents one embodiment of the present invention.

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The Examiner points out that Example 6 of the Schmidhauser reference discloses the preparation of a slurry of the alkali metal salt of a dihydroxy substituted aromatic hydrocarbon in finely particulate form. The Applicants point out that Schmidhauser et al. do not disclose "spraying the aqueous solution comprising the alkali metal salt of a dihydroxy-substituted aromatic hydrocarbon into an organic solvent, said solvent being at a temperature greater than the boiling point of said solvent at the prevailing pressure." As noted, paragraph [0048] of the present invention, "spraying" of the aqueous solution refers to the "atomization" of the aqueous solution into an organic solvent, a measure which prevents agglomeration of the product salt during removal of water. Schmidhauser et al. neither disclose nor suggest limitation (ii) of claim 1 of the present invention. Because the Schmidhauser reference neither discloses nor suggests each and every limitation of the claimed invention, the Applicants urge that amended claim 1 recites patentable subject matter, as naturally do dependent claims 2-37.

In summary then, because the Schmidhauser reference does not disclose or suggest each and every limitation of the claimed invention, the Applicants urge that the rejection of claims 1-37 under 35 U.S.C. 102(b) or, in the alternative, under 35 U.S.C. 103(a) be withdrawn.

In view of the foregoing remarks, the Applicants believe that each of claims 1-37 is now in condition for allowance. The Applicants thus courteously solicit prompt allowance of these claims. Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact the Applicants' undersigned representative at the telephone number below.

Respectfully submitted,


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